

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Son Nguyen Kim *et al.*

Application No.: 10/541,157

Filed: June 30, 2005

For: AMPHOLYTIC COPOLYMER AND USE
THEREOF

Confirmation No.: 6306

Art Unit: 1796

Examiner: H. L. Pezzuto

REPLY BRIEF UNDER 37 C.F.R. § 41.41(a)(1)

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is a Reply Brief pursuant to 37 C.F.R. § 41.41(a)(1) to the Examiner's Answer dated October 26, 2009. This Reply Brief contains the following items, with each item starting on a separate page as suggested by MPEP § 1208(I):

- (A) **Identification Page** appears as page 1;
- (B) **The Status of The Claims** is shown on page 2;
- (C) **Grounds of Rejection to be Reviewed on Appeal** are presented on page 3; and
- (D) **Remarks/Arguments** begin on page 4 of this paper.

THE STATUS OF THE CLAIMS

Claims 16-26 and 32-36 are canceled.

Claims 1-15 and 27-29 are withdrawn from consideration but not canceled.

Claims 1-15, 27-31, and 36-47 are pending.

No claims are allowed.

Claims 30-31 and 36-47 are rejected.

The claims on appeal are claims 30-31 and 36-47.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Is the rejection of claims 30-31 and 36-47 under 35 U.S.C. § 103(a) based on Jenkins, Blankenburg *et al.*, Morschhäuser *et al.*, and/or Galleguillos *et al.* proper?

REMARKS/ARGUMENTS**1. The Examiner Raises New Arguments in the Examiner's Answer That Are in Direct Contradiction to the Teachings of the Prior Art**

Applicants explained in the Appeal Brief that claims 36-47 stood rejected by the examiner on appeal even though the examiner had never previously addressed the patentability of these claims. *See* Appeal Brief, page 7. In the Examiner's Answer, for the first time, the examiner addresses two of the previously non-addressed claims, claims 36-37 (the examiner did not address the remaining claims 38-47). The examiner writes that the ratios of the a) anionic component to b) cationic component as set forth in claims 36-37 are merely the result of routine optimization. The examiner writes:

Regarding the recited anionic to cationic molar ratios expressed in claims 30, and 36-37, since the general conditions of the present claims are disclosed in the references, the examiner is of the position that discovering the optimum or workable ranges of anionic and cationic monomers would involve only routine skill in the art.

Examiner's Answer, p. 11, lines 12-18.

Claim 30 provides that the ratio of a) anionic component to b) cationic component be in a ratio of 0.5:1 to less than 2:1. Claim 36 recites a range of from 0.7:1 to 1.8:1. And claim 37 recites a range of about 1:1.

The proposition that these claimed ratios are the result of routine optimization is in direct contradiction to Galleguillos *et al.*, the only reference cited by the examiner requiring the use of an a) anionic component together with a b) cationic component. Galleguillos *et al.* describes a polymer or copolymer formed by an anionic component to cationic component in a very broad range of **2:1 to 1:450**, which does not overlap with any of the claimed ranges. Furthermore, Galleguillos *et al.* specifically teaches away from the claimed range by indicating that a large excess of cationic monomers over anionic monomers should be used. *See, e.g.*, Col. 12, lines 45-59. The specification of Galleguillos *et al.* explains:

A preferred ratio of cationic monomers to anionic monomers is from about 2 to about 16, with the ratio of about 3 to 16 being further preferred. Selecting a ratio within this range has two advantages. First, it facilitates polymerization. The cationic and anionic monomers form inter and intra salt units which cause the copolymer to precipitate from the solvent in the form of a fine powder. This facilitates formation of the copolymer by precipitation polymerization. Second, the presence of anionic and cationic groups in the same polymeric molecule renders the copolymer compatible with cationic, anionic, and amphoteric surfactants typically used in cosmetic, household, cleaning, pharmaceutical, and other formulations.

Galleguillos *et al.*, Col. 12, lines 47-59.

Galleguillos *et al.* expressly teaches that the ratio of cationic monomers to anionic monomers is from about 2 to about 16 with the most preferred ratio from about 3 to about 16. Galleguillos *et al.* explains that a large excess of cationic monomer is necessary to impart specific advantages to the product such as improved polymerization and higher compatibility with surfactants. *See id.* Furthermore, every example of Galleguillos *et al.* has the molar amount of cationic compound in large excess of the molar amount of anionic compound, which is far outside the range of the instant claims. A prior art reference that teaches or suggests a preferred embodiment different from the claimed subject matter weighs against a determination of obviousness. *In re Baird*, 16 F.3d 380, 382-83, (Fed. Cir. 1994); *See also* MPEP 2144.08(II)(A)(4). The data from the examples of Galleguillos *et al.* is summarized in the following table.

Example	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Anionic Component (MAA)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cationic Component (MDAPMA)	3.1	6.43	6.43	8.19	11.27	6.43	6.43	6.42	6.42	6.42	6.43	6.43	7.77	6.43
Ratio	1:3	1:6	1:6	1:8	1:11	1:6	1:6	1:6	1:6	1:6	1:6	1:6	1:8	1:6

Applicants have not merely optimized the ranges set forth in Galleguillos *et al.* but instead proceeded in direct contradiction to its teachings. Mere optimization would entail determining the optimum ratio based on the ranges and teachings provided therein, *i.e.*, the

optimal ratio within range of preferred ratios. Because the prior art teaches away from proceeding as applicants have done, the rejection is improper and should be withdrawn.

2. The Examiner Refuses to Considered All the Elements of the Claims

The examiner improperly refuses to consider the elements of claims 38-47 in judging their patentability. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970); MPEP 2143.03. As explained in detail on page 7 of applicants' Appeal Brief, the examiner has rejected claims 36-47 but has never considered their content or provided any reasoning explaining how or why these claims are obvious in view of the prior art. The examiner addressed claims 36-37 for the first time in the Examiner's Answer but she did not address the remaining claims 38-47.

Claim 38 provides for the inclusion of at least one monomer d) in copolymerized form selected from a group of monomers as set forth in the claim. The examiner has not addressed claim 38 nor has the examiner made any statements on the record indicating how or why the inclusion of at least one monomer d) would be obvious.

Claim 39 provides for the inclusion of at least one polyether acrylate in copolymerized form (component e)). The examiner has not addressed claim 39 nor has the examiner made any statements on the record indicating how or why the inclusion of at least one polyether acrylate in copolymerized form would be obvious.

Claim 40 provides for the inclusion of a component g) selected from g1) polyether-containing compounds, g2) polymers which have at least 50% by weight of repeat units which are derived from vinyl alcohol, and g3) cellulose, starch and derivatives thereof. The examiner has not addressed claim 40 nor has the examiner made any statements on the record indicating how or why the inclusion of a component g) would be obvious.

Claims 41-44 are directed to specific anionic components a). The examiner has not addressed claims 41-44 nor has the examiner made any statements on the record indicating how or why the inclusion of the specifically recited anionic components are obvious.

Claims 45-46 are directed to specific cationic components b). The examiner has not addressed claims 45-46 nor has the examiner made any statements on the record indicating how or why the inclusion of the specifically recited cationic components are obvious.

Claim 47 provides for a crosslinking compound f) with at least two alpha, beta-ethylenically unsaturated double bonds per molecule. The examiner has not addressed claim 47 nor has the examiner made any statements on the record indicating how or why the inclusion of the specifically recited cationic components are obvious.

As explained more fully in applicants' Appeal Brief, claims 38-47 are not obvious because the prior art does not account for every element of the claim, the art teaches away from the claimed ratio of anionic component to cationic component, and deriving the subject matter of the claims requires extensive picking and choosing from disparate elements of the prior art and simply lumping them together using applicants' disclosure as a blueprint.

It is improper for the examiner to refuse to consider the subject matter of claims 38-47 when judging their patentability. Thus, the rejection is improper and should be withdrawn.

CONCLUSION

In view of the above comments in conjunction with the Appeal Brief, it is respectfully requested that the Board reverse the examiner and allow the rejected claims.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13111-00023-US from which the undersigned is authorized to draw.

Dated: December 1, 2009

Respectfully submitted,

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